## Green Infrastructure Business Certification

As you aware the funds associated with the American Recovery and Reinvestment Act (ARRA) requires that the State shall use 20% of its DWSRF capitalization grant for green infrastructure projects to address water and energy efficiency improvements or other environmentally innovative activities. The EPA has referred to this provision as creating a Green Infrastructure Reserve within the DWSRF capitalization grant.

### What does this mean for Mississippi?

This means that of the $19.5 million of Mississippi's DWSRF ARRA capitalization grant, $3.9 million will be reserved to fund projects that are "green infrastructure" in nature. As we have seen through the responses supplied through the ARRA Consideration Forms, most of Mississippi's "green" projects relate to either water efficiency, energy efficiency, or a combination of both based on the EPA examples. The responses also indicate that we will be able to meet the reserve. These projects will be the principal focus of the Mississippi Green Infrastructure Reserve. Guidance indicates that under the Green Infrastructure Reserve, entire projects may be considered or only appropriate identifiable components of larger projects may be considered for inclusion.

In order to ensure that the State receives credit toward the 20% Reserve and retains the funds within the state, each qualifying project will need to submit a "Business Case" certification to satisfy the necessary requirements.

### Establishing a Business Case to Satisfy Requirements

As mentioned in previous correspondence, there are some types of projects that clearly will qualify towards the 20% Green Infrastructure Reserve. Those projects include those being entirely and explicitly framed as a green infrastructure or a water or energy efficiency project. However, some traditional projects may also have benefits that may, in some cases, be counted towards the State's 20% Green Infrastructure Reserve requirement. For example, lower friction afforded by a new distribution pipe could reduce the energy needed to pump water through the distribution system. Another example may relate to the water savings realized due to the replacement of leaky pipes. In order for these projects (or portions of projects) to be counted toward the 20% requirement, Mississippi's project files must contain documentation that the clear business case for the project includes identifiable and substantial benefits that qualify as Green Infrastructure Reserve benefits.

This obviously goes beyond normal DWSRF requirements. Making your project or "case" qualify for "green infrastructure" will come down to two components:

**Technical**
This will involve using information from maintenance or operation records, engineering studies, project plans, etc., that identify problems at the existing facility. This information would include

data on water and/or energy inefficiencies. Information gathered should clarify the technical benefits from the project in water and/or energy efficiency terms.

**Financial**

The financial component would need to show a cost estimate and water savings from the project based on technical analysis of benefits and an assessment within total project cost that these savings comprise a substantial part of financial justification for the project.

This necessary documentation could be a simple memo, but must indicate the basis on which this project was deemed to qualify towards the 20% requirement. Such a memo would typically include direct reference to a preliminary engineering report or other planning documents that make clear that the basis upon which the project (or portion) was undertaken included identifiable and substantial benefits qualifying for the Green Infrastructure Reserve.

Although not intended to be an exhaustive list, the EPA has identified a number of project-related costs below that could count toward the 20% requirement. In the examples listed, I have emphasized the most common types that Mississippi will be utilizing. In most of these situations, a business case must be submitted.

To aid in the preparation of "business case", the EPA has offered some case guidelines specifically for pump replacement and pipe replacement green situations. For example:

Pump Replacement Documentation:

- Should show selection of a pump that ranks among the most energy-efficient commercially available. Efficiency improvements should be substantially compared to the average efficiency currently available for that type of pump. Additionally, energy efficiency should not be established by simply comparing the new equipment to equipment being replaced, since any replacement equipment would be expected to be more efficient than existing equipment.
- Provide verified efficiency projections
  - List the manufacturer, make, and model of key components (motors, pumps, etc.)
  - Document that the energy efficiency specifications for the proposed equipment demonstrate substantial savings over other currently available equipment.

Pipe Rehabilitation/Replacement Documentation:

- Should provide specific data documenting water loss (at minimum, system-wide, or more localized data, if available).
- Should identify the length, C-values, pipe material, diameter, and provide a general description of the position within system of pipes being rehabilitated/replaced.
- Should document that the pipes to be replaced are the primary source of water loss (if such data is available). At minimum, should provide specific information on the basis for rehabilitation/replacement, such as pipe age, type, etc. Additionally, should

provide operation and maintenance records showing that the pipes proposed for replacement are likely to generate the largest return in leak reduction.

- If energy efficiency is relevant to project qualification as "green", should provide any available documentation regarding expected increases in energy efficiency.

Those systems receiving this letter should, with the help of their consulting engineer, build a "business case" for their project. Since the ARRA has a requirement of 20% for the Green Infrastructure Reserve, there is a chance the some projects will be by-passed in order to achieve this requirement. I have also attached the "Green Infrastructure Categories" to help you define the "green" portions of your project(s).

If you have any questions concerning "Green Infrastructure" or building a "business case", please contact me at 601-576-7518 or by e-mail at wmoody@msdh.state.ms.us.

Sincerely,

William F. Moody, P.E., BCEE
Director, Drinking Water SRF
Bureau of Public Water Supply

cc: Consulting Engineer

**Green Infrastructure Categories**

**Energy Efficiency**

- Includes capital projects that reduce energy consumption of eligible drinking water infrastructure projects:
  - EPA's Better Management-Energy Web page: <http://www.epa.gov/waterinfrastructure/bettermanagement_energy.html>
  - EPA's clean energy Web site: <http://www.epa.gov/cleanenergy/>
  - Clean energy includes wind, solar, geothermal, hydroelectric, and biogas combined heat and power systems.
- Eligible costs may include:
  - Planning and design activities for energy efficiency that are reasonably expected to result in a capital project.
  - Building activities that implement capital energy efficiency projects.
  - Costs associated with a utility energy audit, if required as a condition of assistance.
- Energy efficiency projects do not need to be part of a larger capital improvement project.
- Examples include, but are not limited to:
  - **Energy-efficient retrofits and upgrades to pumps and treatment processes (requires business case).**
  - Leak detection equipment.
  - Producing clean power for treatment systems on site (wind, solar, hydroelectric, geothermal, biogas powered combined heat and power).
  - **Replacement or rehabilitation of distribution lines (requires business case).**

**Water efficiency**

- Water efficiency is the use of improved technologies and practices to deliver equal or better services with less water.
  - WaterSense program Focus on Utilities Web site: <http://www.epa.gov/watersense/tips/util.htm>
- Eligible costs associated with water efficiency projects:
  - Planning and design activities for water efficiency that are reasonably expected to result in a capital project.
  - Purchase of water-efficient fixtures, fittings, equipment, or appliances.
  - Purchase of leak-detection devices and equipment.
  - **Purchase of water meters, meter reading equipment and systems, and pipes**.
  - Construction and installation activities that implement capital water efficiency projects.
  - Costs associated with developing a water conservation plan if required as a condition of Drinking Water State Revolving Fund (DWSRF) assistance.
- Water efficiency projects do not need to be part of a larger capital improvement project.
- Examples of projects include:
  - I**nstallation of water meters or automated meter reading systems.**
  - Retrofit or replacement of water using fixtures, fittings, equipment, or appliances (can include rebate programs).
  - Distribution system leak-detection equipment.
  - **Replacement or rehabilitation of distribution lines (requires business case).**

**Green infrastructure**

- Green Infrastructure includes an array of practices that manage wet weather to maintain and restore natural hydrology by infiltrating, evapotranspiring and capturing and using stormwater. In the context of the DWSRF, green infrastructure consists of site-specific practices, such as green roofs and porous pavement at drinking water utility facilities.
- Besides managing rainfall, these green infrastructure technologies can provide other benefits, such as reducing energy demands.
  - Green infrastructure projects do not need to be part of a larger capital improvement project.
  - Examples of projects include, but are not limited to implementation of wet weather management systems for utility buildings and parking areas, including the incremental cost of porous pavement, bioretention, trees, green roofs, and other practices that mimic natural hydrology and reduce effective imperviousness.

**Environmentally innovative projects**

- Within the context of the DWSRF program, "environmentally innovative projects" are:
  1) Consistent with the basic project eligibilities of the DWSRF program;
  2) Consistent with the timelines and objectives of the ARRA; and
  3) Demonstrate new and/or innovative approaches to delivering service and/or managing water resources in a more sustainable way, including projects that achieve public health protection and environmental protection objectives at the least life-cycle costs.
  - Environmentally innovative projects do not need to be part of a larger capital improvement project. Eligible projects must include business case documentation.
  - Examples of projects include, but are not limited to:
    - Projects, or components of projects, that help a utility adapt to global climate change.
    - **Projects, or components of projects, consistent with a "Total Water Management" planning framework; or other planning framework within which project life cycle costs (including infrastructure, energy consumption and other operational costs) are minimized.**